

**RULES  
OF  
TENNESSEE DEPARTMENT OF AGRICULTURE  
DIVISION OF MARKETING**

**CHAPTER 0080-5-10  
COMMERCIAL FERTILIZERS REGULATIONS**

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**0080-5-10-.01 DEFINITIONS AND TERMS.** The official terms and definitions for commercial fertilizers shall be those set forth in T.C.A. § 43-11-103.

*Authority:* T.C.A. §§ 43-11-103, 43-11-113. *Administrative History:* Original rule filed October 30, 1986; effective December 14, 1986. Amendment filed April 27, 2007; effective August 28, 2007.

**0080-5-10-.02 GUARANTEED ANALYSIS.**

- (1) (a) A commercial fertilizer formulated according to specifications which are furnished by a consumer prior to mixing (i.e. a custom mix) shall as a minimum be labeled to show the net weight, guaranteed analysis, and the name and address of the distributor along with the name and address of the consumer. This statement shall accompany such a custom mix and be supplied to the purchaser at the time of delivery.
- (b) The guaranteed analysis requirement for custom mix must be represented as a percentage of each individual nutrient or additive based on the total net weight of the custom mix; however, placement of the guaranteed analysis and the weight of each individual material or additive on the statement along with the total net weight of all materials of additives may be sufficient to satisfy the guaranteed analysis requirement. Each distributor shall be responsible for figuring the guaranteed analysis (by net weight) upon the request of a consumer or the Commissioner or his agent. Additives such as insecticides, herbicides, or seeds must be represented on this custom mix statement so that the weights and identity of these products can be determined.
- (c) Records of the guaranteed analysis statement along with other labeling requirements shall become a necessary part of the permanent records of any person selling or distributing fertilizers (as required by T.C.A. §43-11-106) and these records shall be made available to the Commissioner or his agent upon request. The labeling of any commercial fertilizer which is stated inaccurately and not exactly shall be deemed to be misbranded and subject to all enforcement provisions of T.C.A. Title 43, Chapter 11 and/or rules and regulations promulgated thereof.

*Authority:* T.C.A. §43-11-113. *Administrative History:* Original rule filed October 30, 1986; effective December 14, 1986.

**0080-5-10-.03 PERCENTAGES.**

- (1) (a) The word percentage or the symbol (%), when used on a fertilizer label, shall represent only the amount of individual plant nutrients in relation to the total product by weight.

(Rule 0080-5-10-.03, continued)

- (b) When a plant nutrient guarantee is broken down into the component forms, the percentage for each component shall be shown before the name of the form.

EXAMPLE: 4% Nitrate Nitrogen.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

**0080-5-10-.04 PLANT NUTRIENTS.** Plant nutrients in addition to nitrogen, phosphorus, and potassium shall be registered and shall be guaranteed. Guarantees shall be made on the elemental basis. Sources of the elements guaranteed and proof of availability shall be provided to the Commissioner upon request. The minimum percentages which will be accepted for registration are as follows:

ELEMENT	%
Calcium (Ca)	1.0000
Magnesium (Mg)	0.5000
Sulfur (S)	1.0000
Boron (B)	0.0200
Chlorine (Cl)	0.1000
Cobalt (Co)	0.0005
Copper (Cu)	0.0500
Iron (Fe)	0.1000
Manganese (Mn)	0.0500
Molybdenum (Mo)	0.0005
Sodium (Na)	0.1000
Zinc (Zn)	0.0500

Guarantees or claims for the plant nutrients listed in Regulation No. 0080-5-10-.04 are the only ones which will be accepted. Proposed labels and directions for the use of the fertilizer shall be furnished with the application for registration upon request by the Commissioner or his agent. Any of the elements listed in Regulation No. 0080-5-10-.04 which are guaranteed shall appear in the order listed immediately following guarantees for the primary nutrients of nitrogen, phosphorus, and potassium.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

**0080-5-10-.05 MINIMUM REQUIRED LABELING.** The following information, in the format presented, is the minimum required of all fertilizer labels. For packaged products, this information shall either: (1) appear on the front or back of the package, (2) occupy at least the upper-third of a side of the package or, (3) be printed on a tag and attached to the package. This information shall be in a readable and conspicuous form. For bulk products, this same information in written or printed form shall accompany delivery and be supplied to the purchaser at the time of delivery.

- (1) (a) *Net weight.*
- (b) *Brand.*
- (c) *Grade* (Provided that the grade shall not be required when no primary nutrients are claimed).
- (d) *Guaranteed Analysis.\**

Total Nitrogen (N)\*\* ..... %  
 \_\_\_\_\_ % Ammoniacal Nitrogen  
 \_\_\_\_\_ % Nitrate Nitrogen

(Rule 0080-5-10-.05, continued)

\_\_\_\_\_ % Water Insoluble Nitrogen  
 \_\_\_\_\_ % Urea Nitrogen  
 \_\_\_\_\_ % (Other recognized and determinable forms of N)  
 Available Phosphoric Acid (P2O5) ..... %  
 Soluble Potash (K2O) ..... %  
 (Other nutrients, elemental basis)\*\* ..... %

- (e) *Sources of nutrients*, when shown on the label, shall be listed below the completed guaranteed analysis statement.
- (f) *Name and address of the registrant* excepting custom mixed fertilizers which shall be required to have the distributor's name and address if that distributor mixes or commingles two or more fertilizer materials.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

#### 0080-5-10-.06 LABELING OF SLOWLY RELEASED PLANT NUTRIENTS.

- (1) (a) No fertilizer label shall bear a statement that connotes or implies that certain plant nutrients contained in a fertilizer are released slowly over period of time, unless the nutrient or nutrients are identified and guaranteed.
- (b) Types of products with slow release properties recognized are (1) water insoluble (N products only), such as natural organics, urea-formaldehyde, IBDU, oxamide, etc., (2) coated slow release, such as sulfur coated urea and other encapsulated soluble fertilizers, and (3) occluded slow release, where fertilizers or fertilizer materials are mixed with waxes, resins, or other inert materials and formed into particles. The terms, "water insoluble, coated slow release, and occluded slow release" are accepted as descriptive of these products, respectively, provided the manufacturer can show a testing program substantiating the claim (testing under guidance of University of Tennessee Experiment Station personnel or a recognized reputable researcher acceptable to the Commissioner for evaluating the release characteristics of the product(s), must also be provided by the manufacturer.
- (c) To supplement Regulation No. 0080-5-10-.06 (b) when the nitrogen is organic, it should be established that if a label states the amount of organic nitrogen present in a phrase such as "nitrogen in organic form equivalent to X%N", then the water insoluble nitrogen guarantee must not be less than 60% of the nitrogen so designated. For example: If the total nitrogen guarantee for a fertilizer is 10% and the label states, "Nitrogen in organic form equivalent to 2.5%N" then the WIN guarantee must not be less than 1.5% ( $2.5\% \times 0.6 = 1.5\%$ ).
- (d) When a slowly released nutrient is less than 15% of the guarantee for either total nitrogen (N), available phosphoric acid (P2O5), or soluble potash (K2O), as appropriate, the label shall bear no reference to such designations.

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\*Zero (0) guarantees for nutrients other than the primary nutrients should not be made and shall not appear in the statement.

\*\*If chemical forms of N are claimed or required, the form shall be shown and the percentages of the individual forms shall add up to the total nitrogen.

\* \*\*As prescribed by Regulation No. 0080-5-10-.04.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

#### 0080-5-10-.07 LABELING OF SOIL CONDITIONERS.

(Rule 0080-5-10-.07, continued)

- (1) (a) Each container of a soil conditioner shall be labeled in a legible and conspicuous form to show the following information:
  1. The net weight of the contents.
  2. The name of the product.
  3. The guaranteed analysis, including the common or usual English name and the percentage of each active ingredient, and the name and percentage of inert ingredients.
  4. A statement as to the purpose of the product stated in terms of the claimed or beneficial effect resulting from the use of the product.
  5. Adequate directions for use and cautions or warnings against misuse if applicable.
  6. The name and address of the registrant.
- (b) Bulk lots shall be labeled by attaching a copy of a printed label to the invoice or by inclusion on the invoice of all information required in Regulation No. 0080-5-10-.07 (a). The invoice shall be furnished to the purchaser at the time of sale or delivery.
- (c) No soil conditioning ingredient may be listed or guaranteed on the label or in labeling of soil conditioner without the Commissioner's approval. The Commissioner may require proof of any claim or claims made for any soil conditioner. For evidence of proof, the Commissioner may rely on experimental evaluations, or advice supplied from such sources as the University of Tennessee Extension Service. The Commissioner may accept or reject other sources of proof as additional evidence in evaluating soil conditioners.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

**0080-5-10-.08 INSPECTION FEES.** The inspection of any records which are requested by the Commissioner or his agent in order to determine accurately the tonnage sold by a distributor or a registrant in this state shall be done during reasonable hours which shall mean any time that the distributor or registrant is available to do business with the public.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

**0080-5-10-.09 TONNAGE REPORTS AND INSPECTION FEES.** Each distributor and registrant shall be furnished forms by the Commissioner which will set forth a format whereby codes (for fertilizer materials, counties, manufacturers, etc.) are to be used wherever applicable. Each distributor and registrant shall report in summary form the amount (tons or fractions thereof) of each grade of fertilizer sold, the county in which the fertilizer was distributed (bag, bulk, liquid, or other forms), and whether the fertilizer was for farm or non-farm use. This summary report shall further be used as a basis for the payment of inspection fees and this report along with the inspection fees shall be due quarterly (ending on the last day of March, June, September and December) and submitted by the 15<sup>th</sup> day of month immediately following. This report may be supplemented by a computerized summary upon approval by the Commissioner or his agent if that computerized summary contains all of the required data in the proper sequence.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986. Amendment filed May 24, 2001; effective September 28, 2001.

**0080-5-10-.10 INVESTIGATIONAL ALLOWANCES.**

(Rule 0080-5-10-.10, continued)

- (1) (a) A commercial fertilizer shall be deemed deficient if the analysis of any nutrient is below the guarantee by an amount exceeding the values in the following schedule\*

Guaranteed percent	Nitrogen percent	Available Phosphoric acid, percent	Potash percent
04 or less	0.49	0.67	0.41
05	0.51	0.67	0.43
06	0.52	0.67	0.47
07	0.54	0.68	0.53
08	0.55	0.68	0.60
09	0.57	0.68	0.65
10	0.58	0.69	0.70
12	0.61	0.69	0.79
14	0.63	0.70	0.87
16	0.67	0.70	0.94
18	0.70	0.71	1.01
20	0.73	0.72	1.08
22	0.75	0.72	1.15
24	0.78	0.73	1.21
26	0.81	0.73	1.27
28	0.83	0.74	1.33
30	0.86	0.75	1.39
32 or more	0.88	0.76	1.44

For guarantees not listed, calculate the appropriate value by interpolation.

- (b) Secondary and minor elements shall be deemed deficient if any element is below the guarantee by an amount exceeding the values in the following schedule:

ELEMENTS	ALLOWABLE DEFICIENCY
Calcium )	0.2 unit +5% of guarantee
Magnesium )	0.2 unit + 5% of guarantee
Sulfur )	0.2 unit + 5% of guarantee
Boron )	0.003 unit + 15% of guarantee
Cobalt )	0.0001 unit + 30% of guarantee
Molybdenum )	0.0001 + 30% of guarantee
Chlorine )	0.005 + 10% of guarantee
Copper )	0.005 unit + 10% of guarantee
Iron )	0.005 unit + 10% of guarantee
Manganese )	0.005 unit + 10% of guarantee
Sodium )	0.005 unit + 10% of guarantee
Zinc )	0.005 unit + 10% of guarantee

\*For these investigational allowances to be applicable, the recommended AOAC procedures for obtaining samples, preparation and analysis must be used, unless a proven variation of such procedures is acceptable to the Commissioner. AOAC Procedures are described in Official Methods of Analysis of the Association of Official Analytical Chemists. In evaluating replicate data, Table 19, page 935, Journal of the Association of Official Analytical Chemists, Volume 49, No. 5, October, 1966, should be followed.

The maximum allowance when calculated in accordance to the above shall be 1 unit (1%).

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

#### 0080-5-10-.11 PLANT FOOD DEFICIENCY.

(Rule 0080-5-10-.11, continued)

- (1) (a) Any penalty assessed by the Commissioner for a deficiency in an official sample of fertilizer of any primary, secondary, or micro nutrient shall be paid by the registrant if there is a deficiency in a fertilizer material or mixture which is sold and sampled in the same form and condition as delivered to the distributor or consumer. The assessed deficiency penalty shall otherwise be paid by the distributor when the distributor mixes or commingles any fertilizer materials or mixtures received from a registrant such that the guaranteed analysis would be rendered uncontrollable by the registrant.
- (b) A deficiency penalty will be based on the commercial value of total nitrogen (N), available phosphoric acid (P<sub>2</sub>O<sub>5</sub>), soluble potash (K<sub>2</sub>O), and secondary and micro nutrients. Any deficiency of a primary, secondary, or micro nutrient beyond the investigational allowance for such nutrient shall be assessed a penalty to the amount of three (3) times the commercial value of said deficiency.

**Authority:** T.C.A. §43-11-113. **Administrative History:** Original rule filed October 30, 1986; effective December 14, 1986.

#### **0080-5-10-.12 ADULTERATION.**

- (1) Commercial fertilizers that contain guaranteed amounts of phosphates and/or micronutrients are adulterated when they contain metals in amounts greater than the levels for metals in fertilizers established by the American Association of Plant Food Control Officials Statement of Uniform Interpretation and Policy number 25 as found at [www.aapfco.org](http://www.aapfco.org).
- (2) Hazardous waste derived fertilizers as defined by the United States Environmental Protection Agency shall be adulterated when they exceed the levels of metals permitted by the United States Environmental Protection Agency in the Code of Federal Regulations at 40 Code of Federal Regulations Parts 261, 266 and 268.

**Authority:** T.C.A. §§ 43-11-103, 43-11-113, 43-11-124. **Administration History:** Original rule filed April 27, 2007; effective August 28, 2007.